SS TUTSHI

CONTENT

Restoration of the "SS Tutshi"

The *SS Tutshi* was built by the British Yukon Navigation Company in 1917 at Carcross and was pulled out of service in 1955. The Yukon Government purchased the *SS Tutshi* in 1971 and began an ambitious restoration project that was nearing its end when the boat tragically caught fire in July 1990.

The *Tutshi* project brought pride of place to Carcross residents as local artisans were trained in historic restoration techniques. The community reflected on the busy days of the White Pass & Yukon Route (WP&YR) fleet and looked forward to a healthy tourism industry with the *Tutshi* as the main attraction.

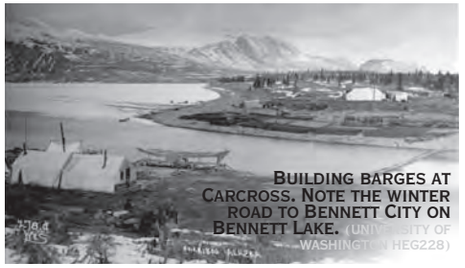
The vessel was opened to tours in 1988 with ongoing restoration work publicly accessible as it was to become part of the steamer's history. It was a devastating blow to the community and the vessel's owner when it burned before the fire suppression system could be installed.

This multi-use interpretation memorial and community space is dedicated to the *SS Tutshi* and its role in the area's tourism industry.

YG Photos

WP&YR and Carcross

The Red Line Company at Carcross. (MacBride Museum 1989.1.1.198)



Building barges at Carcross. Note the winter road to Bennett City on Bennett Lake. (University of Washington HEG228)

Driving the last spike on the WP&YR railway at Carcross, July 1900. Whitehorse and Skagway residents were offered a free ride to Carcross for the event that connected the two settlements. The guests and more than 1000 workers gathered at the chosen site. (YA H. C. Barley coll. 5258)

"SS Kilbourne" at Carcross. (MacBride Museum YG Percy Peele coll. 233)

Early Carcross. (MacBride Museum)

Construction of the WP&YR railway began on May 28, 1898 at Skagway and took 26 months to complete from tidewater Alaska to Whitehorse, Yukon.

The rail line reached Bennett City, on the south end of Lake Bennett, on July 6, 1899. Land was surveyed at Carcross for railway yards, a depot and a good sternwheeler landing. The lake steamers hauled passengers and freight from Bennett to Carcross where the stream of traffic continued on to the Dawson or Atlin goldfields.

A construction camp of tents grew up at Carcross and the Red Line Company was established here in anticipation of rail construction between Carcross and Whitehorse. Shippers were relying on the railway even before it was completed. A 150m x 12m corrugated iron warehouse was built at Carcross and WP&YR built barges to transport heavy commercial and construction freight across the lake.

Locomotives made their first official stop in Whitehorse on June 8, 1900. The formal celebration was held in Carcross when the last spike connecting the rail lines from Bennett City and Whitehorse was driven in on July 29, 1900.

Following the gold rush, Carcross thrived as an important centre, supplying the mining communities of Tagish and Atlin lakes, and WP&YR promoted the tourist industry on the southern lakes.

Oval: Early view of Carcross.
(Deadman's Photo Shop)

Freighting on the Southern Lakes

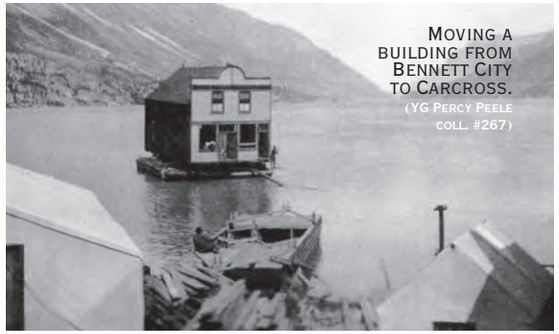
The first southern lakes sternwheelers were constructed on the shores of Lake Bennett during the Klondike Gold Rush. They carried freight and passengers from Bennett City to Canyon City at the head of Miles Canyon just upstream from present-day Whitehorse.

Before the railway was completed around Lake Bennett, the lakes steamers *Bailey, Gleaner, Clifford Sifton* and *Reaper* were on constant duty transporting rail for the construction crews.

The end of steel in Whitehorse connected to the Yukon River sternwheelers. Dissatisfied with the efficiency of the system, WP&YR set up the British Yukon Navigation Company (BYN). It purchased the Canadian Development Company sternwheelers on the Yukon River and the assets of the John Irving Navigation Company which operated boats on Lake Bennett, Taku Arm and Atlin Lake.

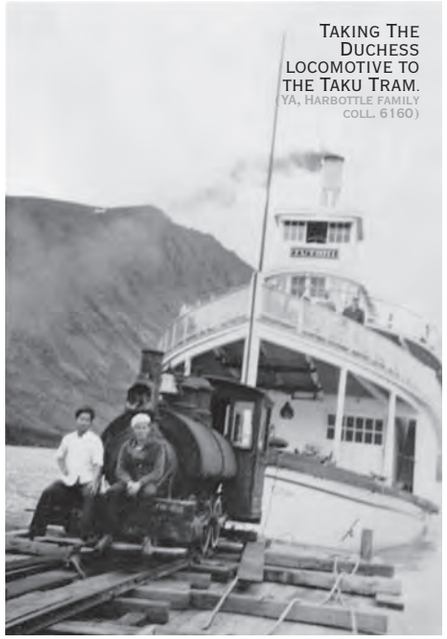
As the stampede waned, many sternwheelers were taken through Miles Canyon and White Horse Rapids to run between Whitehorse and Dawson. The remaining boats worked out of Carcross to supply the growing mining communities in the southern lakes.

The "Tutshi" unloading 100 tons of winter supplies, 1930s. (YA, Geoff Bidlake coll 83/90 #111)



Moving a building from Bennett City to Carcross. (YG Percy Peele coll. #267)

The "Tutshi" at Engineer Mine. (YA, Jean (Geairn) Campbell coll 6032)

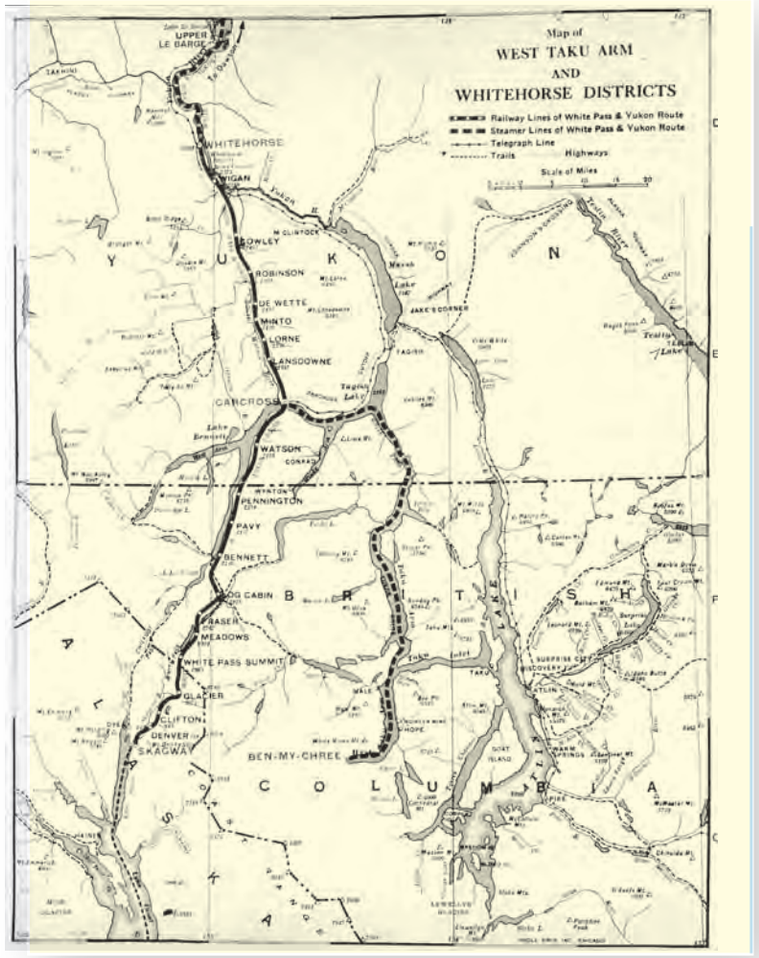


Taking The Duchess locomotive to the Taku Tram. (YA, Harbottle family coll. 6160)

The BYN used the "Yukon Rose" on the Southern Lakes in 1942 and 1943 to push barges of gravel for the construction of the Alaska Highway. (YA, Harry Pepper coll 89/59 #32)

The "Gleaner" at Carcross. (MacBride Museum, Percy Peele coll.)

"To the Land Where Beauty Does Abide"



(1951 Souvenir map: Mrs. Margaret Welsh)

"SS Tutshi" dining room, 1956.
(Alaska Magazine)

Canadian Pacific Navigation Co. poster.

YP&YR train at Skagway. WP&YR arranged their train and lake boat schedules to accommodate cruise ship passengers who wished to travel inland. (P44-06-64, Alaska State Library)

Tourist group on the top deck of the steamer "Tutshi", 1951.
(YG photo by Mabel Welsh)

The tourists were well looked after by the "SS Tutshi" crew. 1950s.
(YG photo, Larry Gillis)

"To Dad:
Well, here we are, sailing up the Taku Arm, in the wilderness of the Yukon, on the quaintest old stern-wheeler steam-boat you ever saw. The plumbing is the bowl and pitcher type, but it is all so much fun."

(Mrs. Mabel Welsh, 1951.)

The southern lakes became a popular tourist attraction for Inland Passage travellers who could afford an excursion into the interior.

The *SS Tutshi* was constructed in 1917 to accommodate an increasing number of tourists. Tourism declined during WWI but later rebounded and the sternwheeler was expanded three times in order to meet the demand for staterooms. In 1925 the *Tutshi* was converted from wood to oil to preserve the quiet during night-time stops.

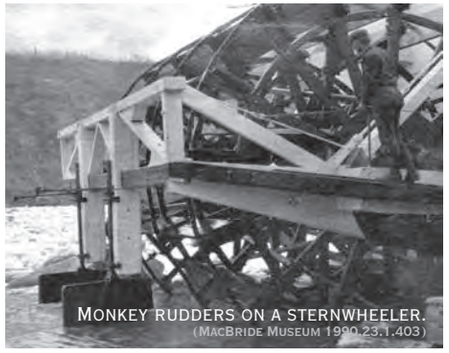
The gardens and hospitality at Ben-My-Chree became a popular tourist destination for the *Tutshi*. WP&YR purchased and maintained Ben-My-Chree as a tourist destination after the owner died in 1930.

There was a piano on the freight deck and, in 1952, two of the waiters played for dances. Canvas, stored in a roll and suspended from the ceiling, was dropped down and pulled tight as a dance floor.

Low population and the construction of all-weather roads in the 1940s led to the end of Yukon's paddlewheel era.

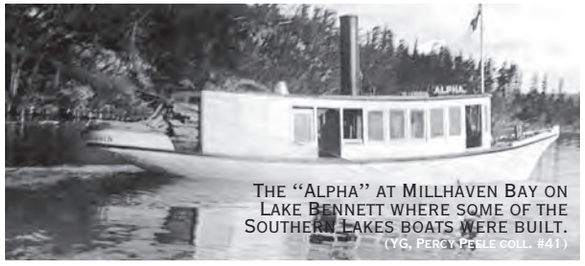
Boats of the Southern Lakes

The "Sibilla" and the "Tutshi" and her barge on the Carcross ways, 1956. The gas boat "Sibilla" moved freight and mail around the lakes in the early 1940s.
(YA, R. Brooks coll. 80/49 #98)



Monkey rudders on a sternwheeler.
(MacBride Museum 1990.23.1.403)

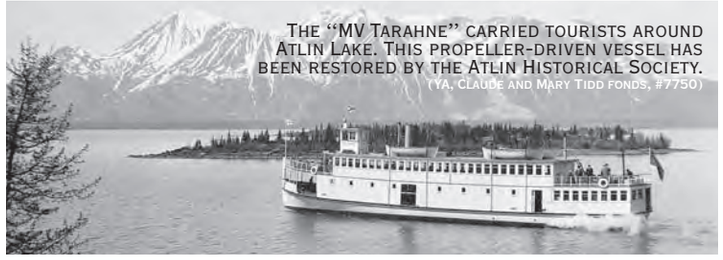
Some of the southern lakes sternwheelers were brought through Miles Canyon and the White Horse Rapids after the Klondike Gold Rush.
(MacBride Museum 1993-29-41)



The "Alpha" at Millhaven Bay on Lake Bennett where some of the Southern Lakes boats were built.
(YG, Percy Peele coll. #41)

The Bennett Lake and Klondike Navigation Company's sternwheeler "Flora".
(From H. J. Goetzman's "Klondike Souvenir")

The "Scotia" at Scotia Bay, Atlin Lake.
(MacBride Museum 1999.251.94)



The "MV Tarahne" carried tourists around Atlin Lake. This propeller-driven vessel has been restored by the Atlin Historical Society.
(YA, Claude and Mary Tidd fonds, #7750)

The Yukon steamers were all sternwheelers rather than sidewheelers. The paddlewheel at the rear of the boat allowed grounded steamers to wash sand away from the hull by reversing their engines. Sternwheelers had a narrower beam enabling them to negotiate smaller channels and they did not require special docking facilities.

The Bennett Lake and Klondike Navigation Company sternwheelers were called the "mosquito fleet". Two of these little boats were sent through Miles Canyon and White Horse Rapids and were the first to offer scheduled trips between Dawson and Whitehorse.

The John Irving Navigation Company operated the *Gleaner* on Bennett and Tagish lakes and the *Scotia* on Atlin Lake. The boats offered a through transportation route to the Atlin goldfields and on July 30, 1899 the *Gleaner* arrived in Bennett with $240,000 in gold dust. John Irving's company was taken over by the BYN in 1901.

The BYN Co. sternwheelers were modeled after the "swift water" vessels that operated on the Snake, Williamette, and Upper Columbia rivers. The Yukon River boats had flat bottoms and used rudders while lake boats, like the *Tutshi*, had narrower and deeper hulls and a keel. The *Tutshi* had rudders attached behind the stern wheel ("monkey rudders") in 1952.

Oval: Sternwheelers "Kilbourne" and "Gleaner" near the Carcross ways.
(Scott/Phelps coll. 89/31 #163)

"Tutshi" Mechanics

The first steamboat, tested in 1807, was heralded as "the wonder of the age". The technology was developed and refined until a powerful steam engine, mounted on the light frame construction of a shallow hull, drove a side or stern wheel vessel. This became the pioneer form of river transportation in many parts of the world.

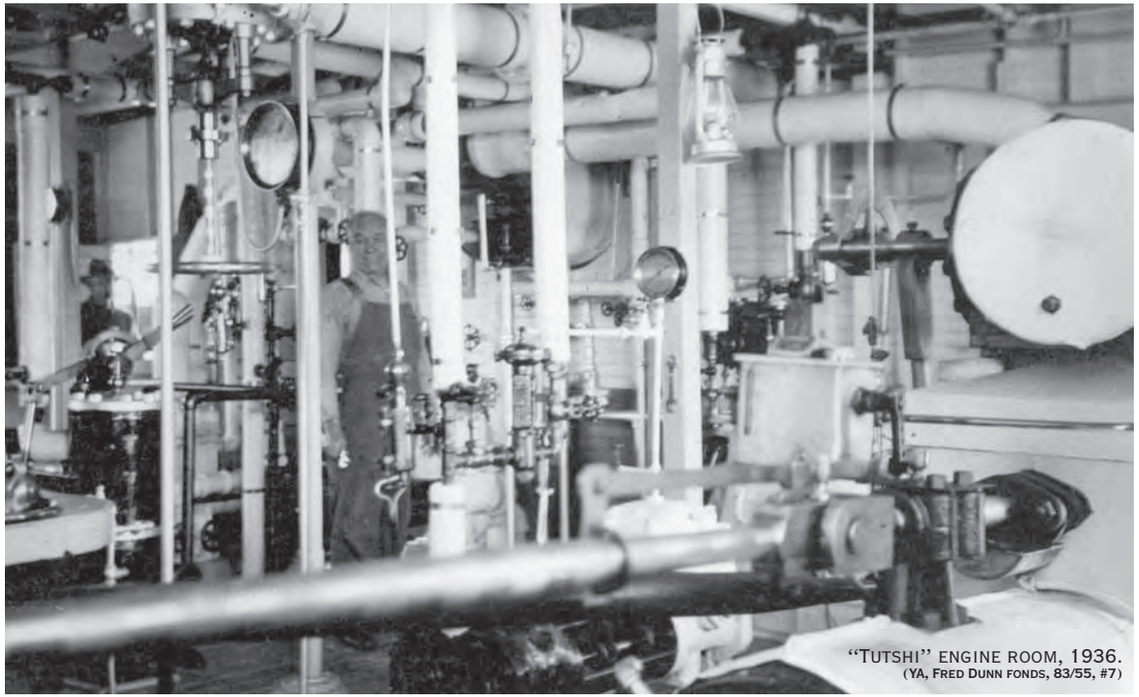
Steamboats convert water into steam in the boiler and it travels through pipes to the engine where the heat is converted into mechanical energy. A closed cylinder contains a large piston which moves back and forth depending on changes in pressure on each side of it. A crank and connecting rod (or pitman) attached to the paddlewheel converts the reciprocal motion of the piston into rotary motion to power the paddlewheel.

Paddlewheelers had little room in the hull for mechanical systems so almost everything was mounted on the deck. The boilers and cylinders were placed in a horizontal position to accommodate the space. The machinery and firewood on a large boat took up enough space that another deck was needed to accommodate the crew and passengers.

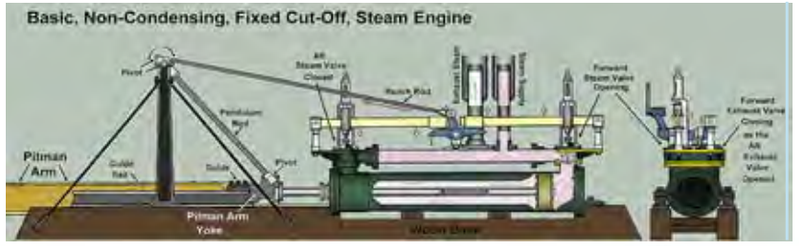
The boat was navigated from the wheelhouse where the pilot could see to negotiate shallows and snags.

Two ship's telegraphs, one in the wheelhouse and one in the engine room, moved in unison as the captain issued orders to his chief engineer by moving the lever as needed.

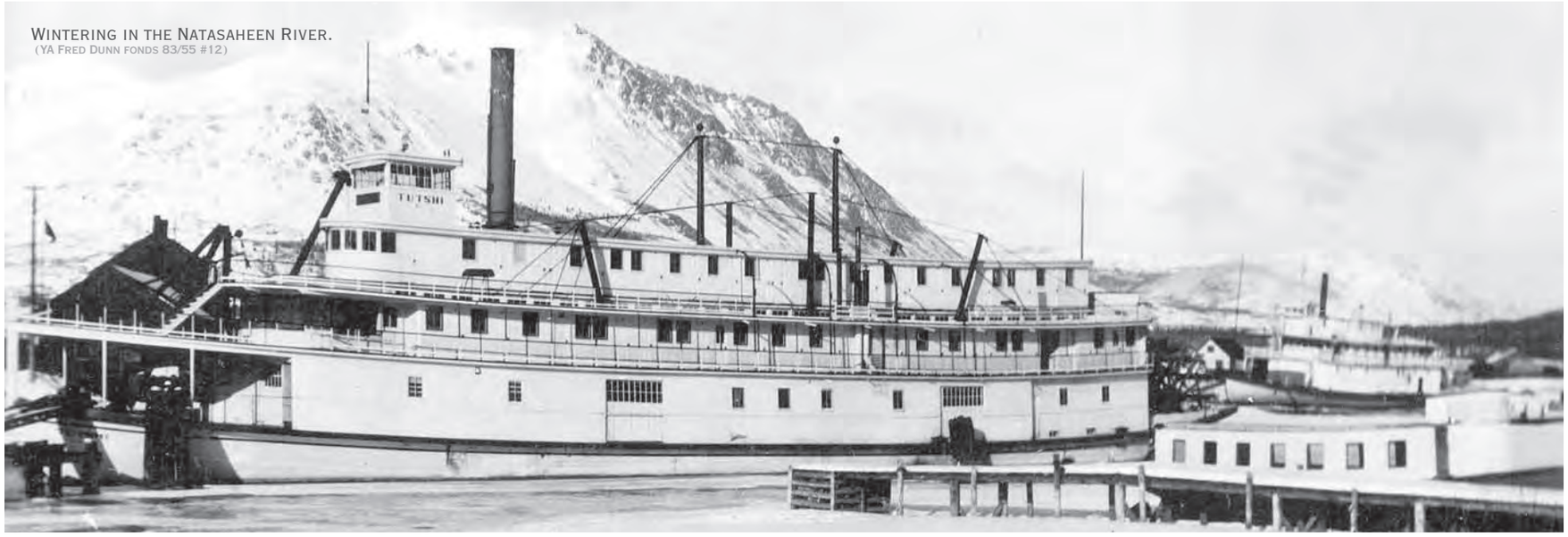
The "Tutshi's" wheelhouse. Instruments in the wheelhouse included a wheel and steering lever, compass and a means of communicating with the engine room; sequentially a system of bells, a voice tube, and a telegraph system. (YA, Fred Dunn fonds, 83/55, #8)



"Tutshi" engine room, 1936.
(YA, Fred Dunn fonds, 83/55, #7)



The "Gleaner" engine room. (YA, Fred Dunn fonds, 82/18, #503)



Wintering in the Natasaheen River.
(YA Fred Dunn fonds 83/55 #12)

Safe Harbour

Tagish Lake contains a number of reefs and sand bars especially at Golden Gate where Taku Arm and Taku Inlet meet.

Tagish and Bennett lakes are prone to fierce winds and in the fall of 1933 a heavy wind blew the *Tutshi* broadside against the ice, damaging the hull. The Natasaheen River, connecting the two lakes, provided a protected harbour where the Carcross-based boats could wait out the winter.

The *Tutshi* was often left sitting in the water for the winter as the narrows by the railway bridge does not freeze. The boats were taken out of the water for repairs and could sit on the "ways" for the winter.

Ways are the dry-dock assemblage of sliding boards and timbers used to haul big boats out of the water. Four steel cables were wrapped around the steamers with wooden pads protecting the hull. The cables were attached to four horse-powered capstans which moved in unison to winch the boats evenly up the ways. The boats sat on "butter boards" which slid over the timbers, greased with tallow.

Towards the end of the 1918 navigation season the "Tutshi" ran aground near Carcross. The boat was left on the sandbar over the winter and the costs of digging out and repairing the Tutshi the following spring had a substantial impact on WP&YR's budget for that year.
(Yukon Archives, Roy Minter fonds, 96/14, Box 16)

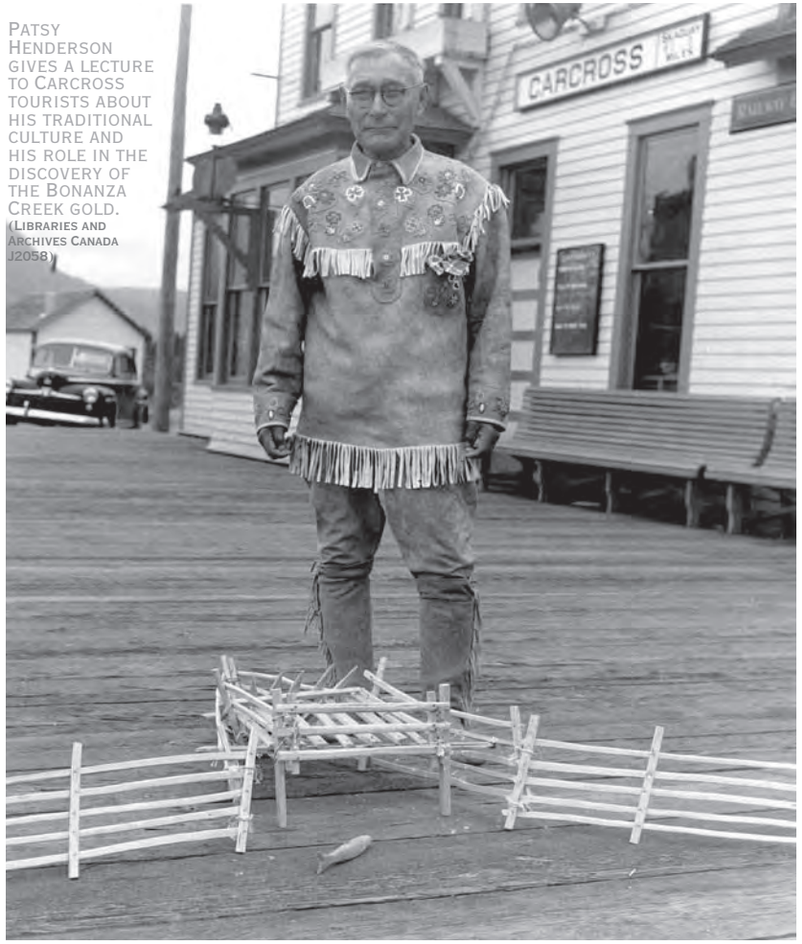
Adapting to changing times

The Carcross and Tagish people gathered at Tagish and the mouth of the McClintock River to trade and fish, and camped by the Natasaheen River when the Woodland Caribou migrated across the river.

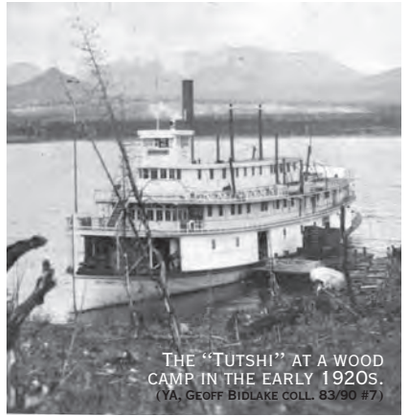
The Klondike Gold Rush brought tremendous change to the area as trees were cut for boat building and later railway ties and barges. The sternwheelers needed wood for fuel and camps were set up around the lakes to supply fuel for the boats. Increasing population and development affected the local caribou herd which moved out of the area.

The Natasaheen River and Nares Lake remained a good place to fish and hunt for birds, and the local people were attracted by new opportunities for employment. Johnnie Johns became famous as a world-renowned outfitter and employed many First Nation guides in his business.

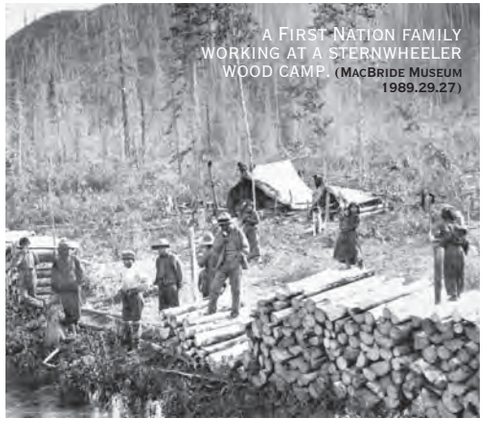
The sternwheelers hired local deckhands, and wood camps employed seasonal workers who could still spend most of their year on the land. The sternwheelers stopped at camps around the lake to obtain fresh fish for their elegant menus. One woman made between $300 and $400 in the summer of 1931 supplying fish to the *Tutshi*.



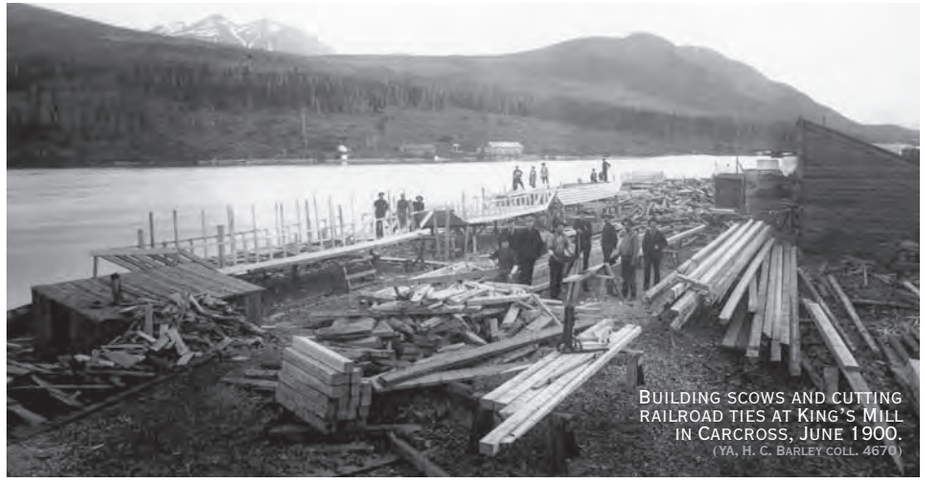
Patsy Henderson gives a lecture to Carcross tourists about his traditional culture and his role in the discovery of the Bonanza Creek gold. (Libraries and Archives Canada J2058)



The "Tutshi" at a wood camp in the early 1920s. (YA, Geoff Bidlake coll. 83/90 #7)



A First Nation family working at a sternwheeler wood camp. (MacBride Museum 1989.29.27)



Building scows and cutting railroad ties at King's Mill in Carcross, June 1900. (YA, H. C. Barley coll. 4670)

Mechanical Equipment

The pieces rescued from the 1990 fire represent the hundreds of metres of steam line and equipment that made the *SS Tutshi* an efficient and comfortable vessel.

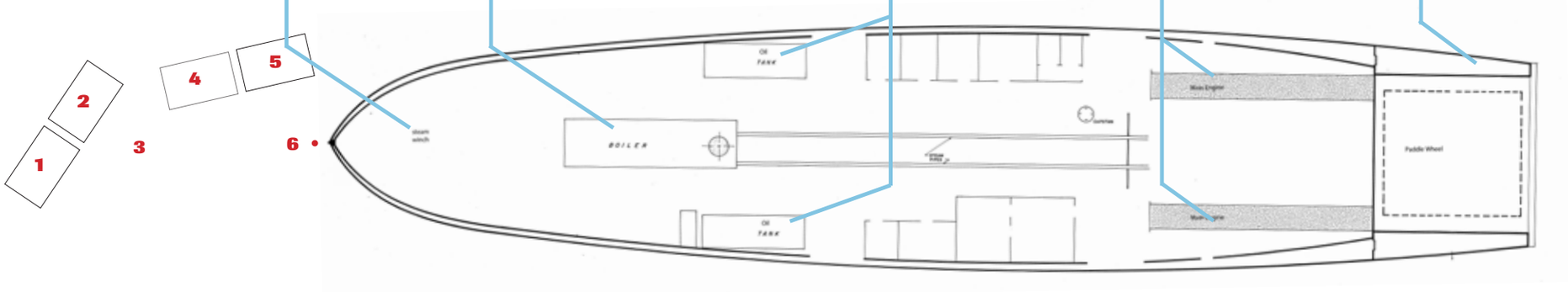
STEAM WINCH A twin-cylinder horizontal steam winch was installed on the *SS Tutshi* in 1952. It was fixed on a lower deck and operated from the deck above by moving a long lever. The steam winch pulled in, let out or adjusted the tension of a rope or cable. On the sternwheelers, winches and capstans were used to handle barges and freight and manoeuvre around obstacles or shallow gravel bars.

BOILER The boiler on the *SS Tutshi* was converted from wood to oil in 1925. Water was pumped from the lake the boiler where 210 tubes dispersed the heat that turned the water into steam. The *Tutshi* was a jet condensing boat in that all of the steam from the boiler came to a pump in the bilge on the starboard side and was then returned to the boiler. The steam collector on the top of the boiler let water drop back into the boiler to get hotter and dryer steam. The pressurized steam moved to the main engines in the stern via the main steam pipes then ran down the centre of the boat.

OIL TANKS These oil tanks were taken from the sternwheeler Aksala and placed on the Tutshi in 1925. The on-board tanks were filled from a large rectangular tank on the wharf or, occasionally, from a railway tank car. The deckhands hooked up the fuel and steam lines; the steam lines warmed the oil so that it would flow.

MAIN ENGINES A piston inside a cylinder on each side of the boat was used to turn the paddle wheel. The piston moved back and forth with a motion dictated by the difference in pressure on each side of the cylinder. Steam under high pressure entered the cylinder, pushing the piston down the cylinder and dropping the pressure. As the pressure dropped, the piston would move back up the cylinder to be pushed back again by a regulated burst of new steam. Compound, non-condensing engines from the *SS Seattle #3* were installed in the *Tutshi* in 1927.

PITMAN ARM The pitman arms connected to the stern wheel translated the horizontal motion of the pistons in the main engines to a rotary motion. The opposing movement of the arms, staggered at each end of the wheel, could drive the wheel forward or backwards with equal force making the sternwheelers very manoeuvrable.



1. PUMP Much of the machinery on board the *Tutshi* was dependent on steam power and a healthy supply of water was crucial. Pumps were used to draw water from the lake for the vessel's water system, for the steam boiler and for fire suppression.

2. CAPSTAN The capstan is a device with a vertical axle used to apply force to ropes and cables in a similar manner to a windlass or winch. This capstan had gears in the head, to provide a mechanical advantage, and was powered by a piston and a steam line that ran under the deck from the main boiler to the capstan which was located on the foredeck of the vessel. When the steam winch was installed in 1952, the capstan was moved near the rear freight deck door.

3. HIGH PRESSURE CYLINDER In 1971, all of the moving parts in the engine room were missing and only the exterior castings, like this cylinder, remained.

4. SINGLE CYLINDER STEAM ENGINE Water turned to steam in the *SS Tutshi's* boiler and expanded greatly in volume, pushing a piston in this single-cylinder engine to generate mechanical power. A charge of steam only worked once in the cylinder, entering and exhausting through the same port and controlled by valves which opened and closed ports to distribute the steam. The steam boiler on the *SS Tutshi* powered a variety of machines that did a number of jobs from generating electricity to making ice cream. This large steam engine may have been used on the shore with its own boiler and winch or capstan.

5. STEAM GENERATOR Steam generators produce steam, like a boiler, but operate at a much higher pressure. Water is fed into a bended tube or tubes surrounded by combustion gases. Steam generators were most often used to generate electrical power. The *Tutshi* had search lights and the boat was brightly lit for the tourists and their events at night.

6. BYN FLAG The British Yukon Navigation Company chose a simple design for their flag with their initials divided by a red X. This appeared as the company's logo on signs and insignia.

The Crew of the "SS Tutshi"

Scotia Mac

"Scotia Mac" John McDonald joined the BYN Co. after working on a number of steamers for numerous organizations starting in 1896, mostly on Kootenay Lake in British Columbia.

In 1902, MacDonald worked on the sternwheeler *Scotia* on Atlin Lake as a mate. He eventually earned the position of captain of the *Tutshi*, as well as a reputation as a jokester and a storyteller. While at Ben-My-Chree, he was rumoured to have told some tourists that red cabbages had been "struck by the northern lights." His love of pranks resulted in embarrassment for the captain once when he decided to nudge a sandbar in order to frighten the passengers and ended up getting stuck. The passengers danced though the night as the crew worked to get the *Tutshi* off the bar.

The deckhands were hired locally. They handled the lines, kept the deck clean, filled the water barrels on the deck, manned the life boats and fire hoses and occasionally helped the waiters clean the tourist cabins. The deckhands and the firemen lived in the engine room cabins. The rooms off the freight deck were occupied by the waiters and cooks.

Many of the waiters on the WP&YR steamers came north from the lower mainland of British Columbia. The work was attractive to university students who could earn enough money to pay tuition and live in comfort for the rest of the year. Due to the intensity of the *Tutshi's* schedule, a crewmember only had three hours in Carcross between runs to Ben-My-Chree.

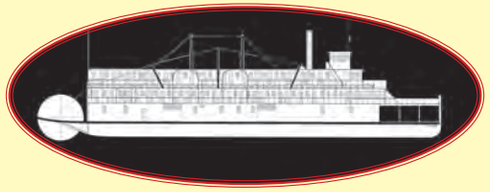
Scotia Mac and his officers on the deck of the "Tutshi".

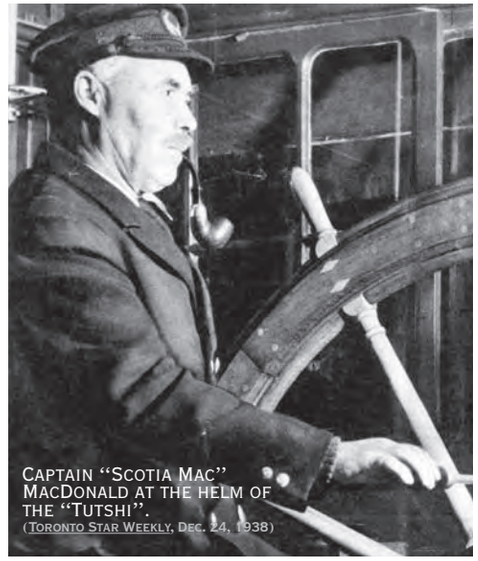
Front row, L-R:
2nd Officer "Shorty" Dodds, Purser Geoff Bidlake, 2nd Engineer George Rose.

Back row, L-R:
1st Engineer J.I. Marshall, Chief Stewart Al "Lofty" James, Captain John "Scotia Mac" McDonald, 1st Officer Frank Waller and Assistant Purser B.F. "Fred" Dunn. 1936.
(Yukon Historic Sites, Fred Dunn photo)

Geoff Bidlake and Fred Dunn on a smoke break, 1936.
(YA, Geoff Bidlake coll 83/90 #21)

(YA, Bev Poirier 82/378, #3)

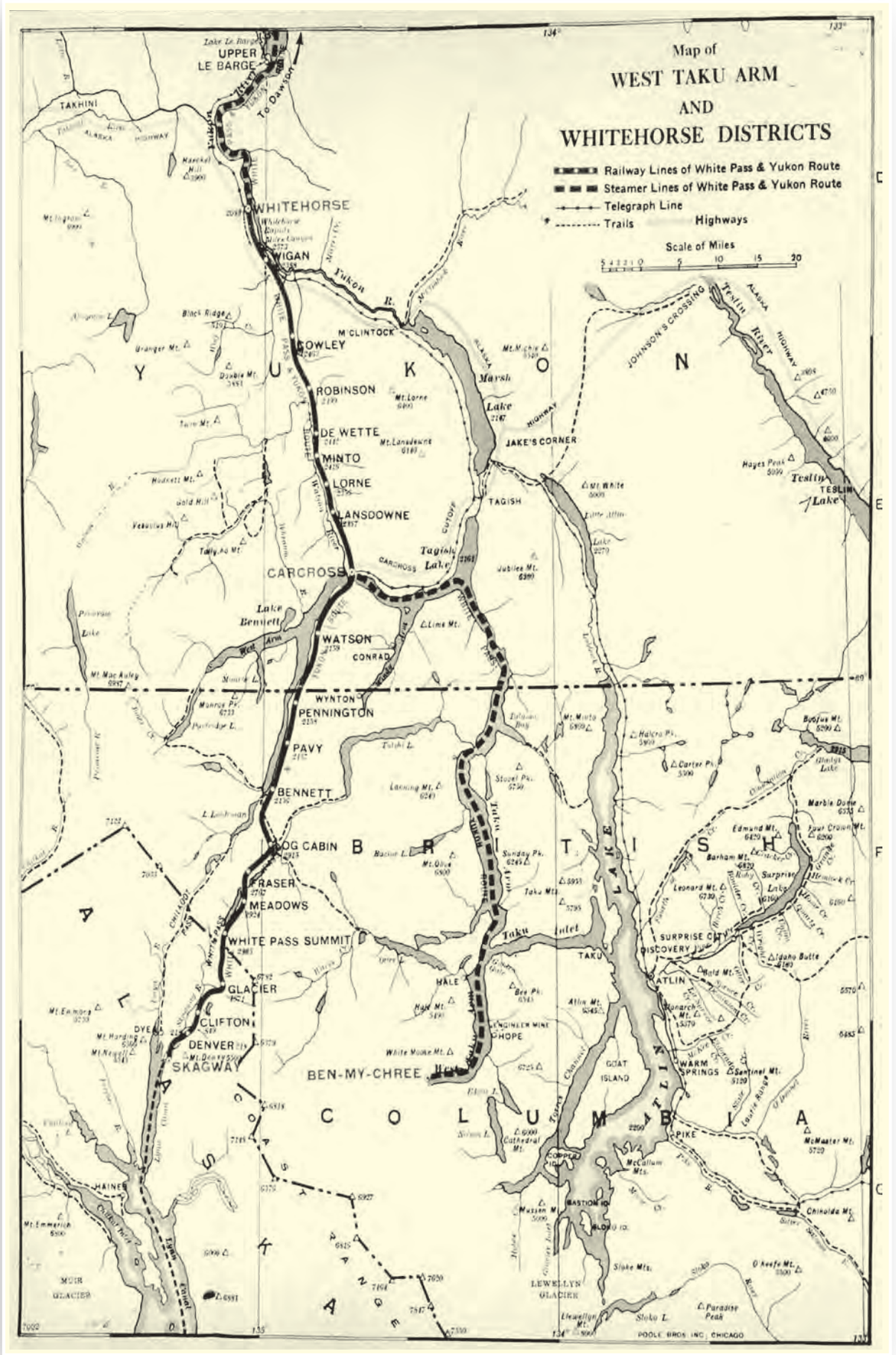




Captain "Scotia Mac" MacDonald at the helm of the "Tutshi".
(Toronto Star Weekly, Dec. 24, 1938)

Geoff Bidlake in the "Tutshi" purser's office, 1936.
(YA, Geoff Bidlake coll. 83/90 #102)

SS TUTSHI



(1951, Mrs. Margaret Welsh)